

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) Process for the purification of water, wherein a solution containing a proportion of a mixed microbiotic culture is added to the water in an environment having catalytic activity, characterized in that, said mixed culture contains a system of photosynthetically active microorganisms and luminous bacteria in a biological solution, wherein the photosynthetically active microorganisms and the luminous bacteria interactare considered as a system, in which photosynthetically active microorganisms are stimulated to photosynthesis by the light emitted by the luminous bacteria.
2. (Original) Process in accordance with claim 1, characterized in that the catalytically active environment is brought about by catalytically active surfaces.
3. (Original) Process in accordance with claim 2, characterized in that a ceramic or polymer surface doped with catalyst substances is used as said catalytically active surface.
4. (Original) Process in accordance with claim 3, characterized in that organic and/or inorganic catalyst compounds are used as catalyst substances.
5. (Previously Presented) Process in accordance with claim 3, characterized in that titanium dioxide (TiO₂) is contained in said ceramic surface.
6. (Original) Process in accordance with claim 5, characterized in that said ceramic surface used is a tile.
7. (Previously Presented) Process in accordance with claim 1, characterized in that said mixed culture contains photosynthetically active microorganisms and luminous bacteria in a biological solution.
8. (Original) Process in accordance with claim 7, characterized in that prochlorophytes, cyanobacteria, green sulphur bacteria, purple bacteria, chloroflexus-type

forms and heliobacterium and heliobacillus-type forms as well as mixtures of two or more of these are contained in said mixture as facultatively phototropic microorganisms.

9. (Previously Presented) Process in accordance with claim 7, characterized in that *Photobacterium phosphoreum*, *Vibrio fischeri*, *Vibrio harveyi*, *Pseudomonas lucifera* or *Beneckea* or mixtures of at least two of these are contained in said mixture as luminous bacteria.

10. (Previously Presented) Process in accordance with claim 1, characterized in that said solution contains as secondary constituents plant extracts, enzymes, trace elements, polysaccharides, alginic derivatives, other microorganisms, either singly or in combination.

11. (Previously Presented) Process in accordance with claim 1, characterized in that the water to be purified is stirred continuously or intermittently.

12. (Previously Presented) Application of the process in accordance with claim 1 for the purification of effluents.

13. (Original) Application in accordance with claim 12, characterized in that pump sumps and waters in purification plants are purified.

14. (Previously Presented) Application of the process in accordance with claim 1 for the purification of waters in public and private installations.

15. (Original) Application in accordance with claim 14 for removing algae.